

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/553,215	YABUNO, HIROYUKI ET AL.	
	Examiner	Art Unit	
	Khai M. Nguyen	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS**. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 6/26/2006.
2.  The allowed claim(s) is/are 1-7, 9-11, 13-19, and 21-26.
3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All    b)  Some\*    c)  None    of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date 10/13/2005
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

  
 October 28, 2007  
 Khai M. Nguyen  
 571-272-1809

**DETAILED ACTION**

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
2. An initiated copy of the information disclosure statement(s) (IDS) submitted on October 13, 2005 is attached herewith.
3. Drawings filed on 10/13/2005 are accepted.
4. Claims 8, 12, and 20 have been cancelled.
5. Claims 1-7, 9-11, 13-19, and 21-26 are allowed. The following is an examiner's statement of reasons for allowance:

With respect to claims 1-7 and 18-19, the references of record, which reviewed and considered, neither anticipate nor render obvious the recited combinations including, among other things, the features of: calculating a degree of change in a digital sum value (DSV) of a modulated code sequence when each of the plurality of candidate modulated codes is selected as the modulated code; comparing the degrees of changes in the DSVs with each other; determining which of the plurality of candidate modulated codes causing the degree of a change in the DSV to be relatively small; and then selecting the result of the determination as the modulated code.

With respect to claims 9-11 and 22-24, the references of record, which reviewed and considered, neither anticipate nor render obvious the recited combinations including, among other features, the features of initializing when any of the DSVs calculated by the DSV calculating means is larger than or equal to a predetermined threshold.

With respect to claims 13-14, and 25-26, the references of record, which reviewed and considered, neither anticipate nor render obvious the recited combinations including, among other things, the feature of initializing the DSV in predetermined cycles depending on characteristic of a signal reproducing apparatus for reproduction of the modulated code.

With respect to claims 15-17 and 21, the references of record, which reviewed and considered, neither anticipate nor render obvious the recited combinations including, among other things, the features of accumulating a value that has been weighted depending on a run length condition of a sequence of the modulated code; using the resultant value as a measure indicating a DC component included in the sequence of the modulated code; and selecting a modulated code that causes the measure approaches a predetermined value.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Prior Art***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclose (notes: all references cited on PTO-892 Form attached herewith).

US 7,009,532 and US 7,215,261 disclose (Fig. 1) a DVD recording method and apparatus including: generating two streams of different code words; calculating the accumulated DSVs of the two data streams; comparing the DSVs; and selecting one of the two streams whose absolute DSV is smaller.

US 6,297,753; US 6,300,886; and US 6,853,320 and disclose (front pages) modulators utilizing DSV calculator circuits.

US 7,212,483 discloses a modulation device and a method including DSV value calculating circuit (Fig. 7, el. 33).

US 6,208,697 discloses an apparatus including a plurality of DSV calculation circuits; and comparator/selection circuit (Fig. 2).

US 5,151,699 discloses (Fig. 4) a data converting apparatus including two DSV calculating circuits and a selector.

***Contact Information***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Khai M. Nguyen** whose telephone number is **571-272-**

**1809.** The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



October 29, 2007

Khai M. Nguyen